

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

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GUY P. JONES
EDITOR

Harmless School Chalks and Crayons Are Now Available

By J. P. RUSSELL, M.D., Chief, Industrial Hygiene Service, State Department of Public Health

A recent article in the Weekly Bulletin called attention to the health hazard to which students and teachers may be exposed in schools where chalks and crayons containing lead are used. Chronic systemic poisoning may be caused by the repeated daily absorption into the human body of lead in quantities as small as $1\frac{1}{2}$ milligrams per day (less than the amount contained in a piece of lead the size of a pinhead). This cumulative poisoning may result either from lead which is swallowed and absorbed from the gastrointestinal tract, or, more commonly, from lead-containing dusts or fumes which are inhaled and absorbed from the lungs directly into the blood stream. Some of the colored chalks, particularly the yellow, orange, red, and green shades, which were being used in California schools, were found to contain large percentages of lead, in the form of compounds, such as lead chromate pigment.

In order to eliminate this hazard, many manufacturers have substituted harmless coloring materials for the lead-containing pigments which were formerly used as coloring agents in chalks, crayons, and art media. Through the cooperation of these firms, samples of materials have been analyzed in the Industrial Hygiene Laboratory of the State Department of Public Health, and have been found to contain no lead, mercury, or arsenic. Lists of these products

may be obtained by writing to the California State Department of Public Health at Sacramento.

Since these materials are evidently free from ingredients which are detrimental to health when they are swallowed or are inhaled in the form of dust, they are considered by the State Department of Public Health as being safe for use in schools.

The list of materials should not be interpreted, however, as covering all of the nonpoisonous chalks and crayons which are now available on the market. It includes only those brands which have been sent to the Industrial Hygiene Service for analysis. Other manufacturers are invited to submit samples of their nontoxic products for similar tests.

In order to ensure the health protection of pupils and school employees, California educational officials are advised to specify in their future orders for chalks, crayons, and other school art supplies, that these materials contain no toxic ingredients.

NEW BOARD MEMBERS APPOINTED

Governor Olson on June 21 appointed as members of the California State Board of Public Health Dr. Francis M. Pottenger, Sr., of Monrovia and Dr. A. Elmer Belt of Los Angeles to succeed Dr. E. M. Pallette of Los Angeles and Dr. Gustave Wilson of Sacramento. Dr. Pallette has served as a member of the board since January, 1932, and Dr. Wilson since June of 1936. Dr. Pallette succeeded the late Dr. A. J.

Scott, Jr., of Los Angeles, and Dr. Wilson succeeded Dr. J. B. Harris of Sacramento.

Dr. Pottenger is a famous tuberculosis specialist who has practiced in southern California for more than forty years. He is Clinical Professor of Medicine in the Medical School of the University of Southern California. Dr. Belt is a graduate of the University of California Medical School, who has practiced his profession in Los Angeles since 1920. The appointment of Dr. Frank B. Young of Long Beach to succeed Dr. Roy A. Terry of Long Beach was announced the first week of June.

CROP IRRIGATION WITH SEWAGE PROHIBITED

At this season of the year, when agricultural crops are under irrigation in many parts of California, the attention of health officers is called to the state regulations governing the use of sewage for crop irrigation purposes. It is of importance that these regulations, which follow, be enforced rigidly:

REGULATIONS GOVERNING USE OF SEWAGE FOR CROP IRRIGATION PURPOSES

Adopted May 27, 1933, under the provisions of the Public Health Act, and General Law.

NOTE.—Attention is called to the fact that the disposal of sewage, sewage effluent or sludge for irrigation or fertilizing purposes requires the holding of permit therefor, issued by the State Board of Public Health under the Public Health Act, to the city, town, district, firm or person owning or operating the sewer system. Users of the sewage, effluent or sludge are, however, liable as agents for the violation of such permit or the Public Health Act. Sale or disposal of any crop dangerous to the public health is subject to various other State health laws. Rules governing the crops which may or may not be watered or fertilized by sewage, effluent or sludge, are as follows:

RULE 1. Raw Sewage. Raw, i.e., untreated, sewage containing human excrement shall not be used for irrigating growing crops. Use of bar screens, grit, or detritus tanks is not to be considered as sewage treatment under these regulations.

RULE 2. Raw or Undigested Sludge. No sludge or screenings shall be distributed or used for fertilizing any growing vegetables, garden truck or low growing fruits or berries, unless the sludge or screenings shall have been rendered innocuous and free of danger of spreading disease by such measures as (a) kiln drying, (b) bed drying or ageing in storage, and in either case for not less than 30 days, (c) conditioning or treating to the satisfaction of the State Department of Public Health, (d) digestion to a point where the sludge or screenings is practically odorless, drains readily and not over 50 per cent of the total solid matter is in the volatile form.

RULE 3. Settled or Undisinfected Sewage Effluents. Effluents of septic tanks, Imhoff tanks or of other settling tanks, or partially disinfected effluents of sprinkling filters or activated sludge plants or

similar sewages, shall not be used to water any growing vegetables, garden truck, berries, or low-growing fruits such that the fruit is in contact with the ground, or to water vineyards or orchard crops during seasons in which the windfalls or fruit lie on the ground. Such sewage, effluents or any sludge or screenings shall not be permitted in ditches or pipes which may be used to irrigate vegetables, garden truck, berries, or low-growing fruit.

Nursery stock, cotton, and such field crops as hay, grain, rice, alfalfa, sugar beets, fodder corn, cowbeets, and fodder carrots may be watered with such settled or undisinfected or partially disinfected sewage effluents provided that no milch cows are pastured on the land while it is moist with sewage, or have access to ditches carrying such sewage.

Amendment January 2, 1934: However, such sewage may be used for irrigating growing vegetables grown exclusively for seed purposes in fields where crops are raised and watered not in conflict with this rule.

RULE 4. Oxidized Effluent Highly Disinfected or Otherwise Treated for Bacterial Removal. The foregoing restrictions do not apply against the use of well oxidized nonputrescible, and reliably disinfected or filtered effluents which always meet the following bacterial standard: in any 20 consecutive samples, from which five 10 c.c. portions each are examined, not over ten portions shall be positive for members of the Coli-aerogenes group, and in no single sample shall over half the .1 c.c. portions of the sample of the effluent be positive for the above organisms. Samples shall be analyzed according to the latest Standard Methods of Examination of Water and Sewage of American Public Health Association.

The works and methods used for the production of such oxidized and disinfected effluent must be correctly adapted to the purpose and designed with adequate factors of safety to produce uniformly a well-oxidized, odorless and inoffensive effluent, thoroughly filtered, treated or disinfected to meet the above standard.

For example, where disinfection is employed apparatus and equipment for applying disinfecting agent or agents shall be in duplicate throughout, including machines, weighing scales and reserve supply of disinfectant for each machine. The disinfecting agent or agents shall be kept in separate rooms from the metering mechanism to prevent corrosion thereof. Each room shall be provided with a suitable source of heat so as to prevent interruptions of the disinfection in cold weather. Sewage flow shall be measured and flow of the disinfectant regulated to provide an adequate dose of disinfectant at all times. The feed of disinfectant shall provide an excess over actual needs and be divided between two or more metering machines so that interruption in the action of one will still yield the bacterial results prescribed. Appropriate laboratory tests to show that the disinfection is adequate shall be made at frequent intervals and at least twice daily. For such routine bacterial control negative 24-hour presumptive tests for the Coli-aerogenes group in the prescribed dilutions will be

recognized as sufficient in the absence of other evidence that the presumptive test is insufficient. Proper records shall be kept of actual operations and results. In short, precautions shall be of an order fully equal to those taken by cities using reliable, modern methods of disinfecting water, obtained from a contaminated source of supply.

RULE 5. Cross Connections. No cross connections shall be permitted between any pipe line or works which may contain sewage, sewage effluent or sludge and any pipe line or works to be used for domestic water supply or drinking purposes. Signs warning that the water is not a drinking water should be placed on pipes at ditches, faucets, etc., that may contain any sewage effluent, sewage or sludge.

PREVENTION OF ILL EFFECTS OF HEAT

Dr. George Parrish, health officer of Los Angeles, states in his weekly report: "With the advent of summer and hot weather there are associated a number of conditions. These are primarily caused by extreme or excessive heat and include heat cramps, heat prostration, or heat exhaustion and collapse. A mild attack is accompanied by dizziness, faintness, headache and muscle soreness or muscle cramps. In severe cases there is also rapid pulse, low blood pressure, pale clammy skin and collapse, which may be accompanied by loss of consciousness.

The principal cause of heat sickness is the loss of large amounts of body fluid and salt, largely through sweating. As much as two gallons daily may be lost in hot dry temperatures. The perspiration contains 0.1 per cent to 0.5 per cent salt and as much as 10 grams may be lost in this manner. It is the loss of body salt that is responsible for most of the symptoms which occur, particularly cramps. Thirst is the danger signal which warns of the need for replacement of fluid. There is no similar danger signal to tell of the need for salt replacement.

The specific treatment for prevention (and also cure) of heat exhaustion is an adequate salt and fluid intake to replace loss through perspiration.

A person usually drinks as much as he loses through excretion. Therefore a practical method of supplying the necessary replacement is to provide salted drinking water. The amount of salt recommended is a teaspoonful, or 60 to 80 grains, to a gallon of water. Where this is not feasible, 10 and 15 grain salt tablets are available for use at frequent intervals during the day. Industry has found it practical to use both methods.

Summary of recommended procedures to prevent ill effects of excessive heat or hot weather is as follows: (1) Drink plenty of water; (2) Assure an adequate amount of salt in addition to that in the daily

diet. It may be added to the drinking water, or salt tablets may be used. The proportion is 1 teaspoonful or 4 grams to a gallon of water; (3) Drink more milk. Milk contains approximately 0.3 per cent salt; (4) Abstain from alcoholic beverages; (5) Wear clothing light in weight and color, and do not strip to the waist. (The evaporation of moisture from sweat soaked clothing helps cool the body more efficiently than from the bare skin."

DISEASES REPORTABLE IN CALIFORNIA

REPORTABLE ONLY

Anthrax	Lymphogranuloma
Beriberi	Inguinale
Botulism	Malaria*
Chancroid	Pellagra
Coccidioidal Granuloma	Pneumonia (Lobar)
Dengue*	Relapsing Fever
Epilepsy	Rocky Mountain Spotted Fever
Fluke Infection	Septic Sore Throat
Food Poisoning	Tetanus
Glanders†	Trichinosis
Hookworm	Tularemia
Jaundice (Infectious)	Undulant Fever

ISOLATION OF PATIENT

Chickenpox	Ophthalmia Neonatorum
Dysentery (Amoebic)	Psittacosis
Dysentery (Bacillary)	Rabies (Animal)
Erysipelas	Rabies (Human)
German Measles	Syphilis
Gonococcus Infection	Trachoma
Influenza	Tuberculosis
Measles	Whooping Cough
Mumps	

QUARANTINABLE

Cholera†	Scarlet Fever
Diphtheria	Smallpox
Encephalitis (Infectious)	Typhoid and Paratyphoid Fever
Leprosy	Typhus Fever
Meningitis (Epidemic)	Yellow Fever†
Plague†	
Acute Anterior Poliomyelitis	

* Patients should be kept in mosquito-free room.

† Cases to be reported to State Department of Public Health by telephone or telegraph and special instructions will be issued.

Health is the first good lent to men;

A gentle disposition then;

Next, to be rich by no by-ways;

Lastly, with friends t' enjoy our days.

—Herrick.

MORBIDITY

Complete Reports for Following Diseases for Week Ending
June 22, 1940

Chickenpox

290 cases: Alameda County 3, Alameda 1, Berkeley 9, Oakland 8, San Leandro 2, Chico 5, Fresno County 2, Fresno 3, Kern County 3, Kings County 1, Los Angeles County 34, Compton 10, Culver City 4, El Monte 1, Glendale 5, Long Beach 4, Los Angeles 46, Pasadena 3, Redondo 3, San Fernando 1, San Gabriel 2, San Marino 2, Santa Monica 4, Maywood 1, Ross 16, Monterey 1, Orange County 5, Anaheim 4, Orange 1, Santa Ana 2, Laguna Beach 10, Riverside 2, Indio 1, Sacramento 6, San Diego County 3, Chula Vista 1, San Diego 11, San Francisco 30, San Joaquin County 5, Manteca 5, Stockton 5, Tracy 1, San Luis Obispo County 1, San Mateo County 1, Santa Barbara County 2, Palo Alto 4, Solano County 2, Benicia 1, Vallejo 2, Sonoma County 3, Petaluma 2, Stanislaus County 2, Tulare 1, Sonora 1, Yuba County 2.

Diphtheria

15 cases: Fresno 1, Los Angeles 4, Mendocino County 2, Riverside 1, Sacramento 2, San Diego County 1, San Francisco 1, San Joaquin County 1, San Luis Obispo 1, Stanislaus County 1.

German Measles

12 cases: Coalinga 2, Los Angeles 1, Montebello 1, Pasadena 2, South Pasadena 1, Monterey County 1, La Habra 1, San Diego 1, San Francisco 1, Siskiyou County 1.

Influenza

56 cases: Los Angeles County 43, Los Angeles 5, Pasadena 1, Monterey Park 1, Bell 1, Sacramento County 1, San Diego 1, Sonoma County 3.

Malaria

3 cases: Kern County 1, Bell 1, Sacramento County 1.

Measles

181 cases: Alameda 1, Berkeley 3, Oakland 1, Butte County 1, Contra Costa County 4, Fresno County 12, Fresno 5, Kern County 6, Bakersfield 3, Los Angeles County 5, Glendora 1, Inglewood 1, Los Angeles 16, Pasadena 1, Pomona 3, San Fernando 1, San Marino 1, Gardena 1, Modoc County 1, Salinas 1, Fullerton 1, Plumas County 1, Corona 2, Sacramento 1, San Diego County 5, Oceanside 5, San Diego 12, San Francisco 3, San Joaquin County 6, San Luis Obispo County 5, Paso Robles 1, San Luis Obispo 35, San Mateo County 1, Santa Barbara 14, San Jose 7, Yreka 1, Solano County 1, Sonoma County 1, Stanislaus County 1, Tulare County 6, Ventura County 2, Yolo County 1, Winters 1.

Mumps

284 cases: Alameda 4, Oakland 5, Fresno County 1, Bakersfield 1, Taft 2, Los Angeles County 52, Claremont 1, Compton 2, Glendale 16, Long Beach 13, Los Angeles 48, Montebello 1, Pasadena 5, Pomona 1, San Fernando 6, San Gabriel 1, Santa Monica 1, Torrance 1, Lynwood 1, Monterey Park 1, Bell 1, Madera County 1, Madera 1, Chowchilla 1, Modoc County 1, King City 1, Orange County 6, Anaheim 6, Fullerton 10, Orange 1, Santa Ana 1, Placentia 1, Riverside County 1, Indio 7, San Diego 3, San Francisco 20, San Joaquin County 5, Manteca 3, Stockton 9, San Luis Obispo County 1, Paso Robles 5, San Mateo County 1, Santa Barbara County 9, Santa Maria 7, Palo Alto 9, Santa Cruz 1, Vallejo 1, Sonoma County 1, Sutter County 1, Ventura 3, Woodland 3.

Pneumonia (Lobar)

48 cases: Alameda County 1, Los Angeles County 4, Los Angeles 13, San Fernando 1, Monterey County 1, Riverside 1, Sacramento County 2, Sacramento 5, San Francisco 16, Modesto 1, Ventura County 1, Oxnard 1, Marysville 1.

Scarlet Fever

76 cases: Oakland 2, Butte County 4, Fresno 1, Bakersfield 2, Los Angeles County 10, Alhambra 1, Burbank 1, Culver City 1, Hermosa 1, Huntington Park 1, Long Beach 1, Los Angeles 11, San Fernando 1, Merced County 1, Huntington Beach 2, Plumas County 1, Corona 1, Riverside 4, Sacramento 3, San Bernardino 2, La Mesa 2, San Diego 1, San Francisco 4, Manteca 1, San Luis Obispo County 2, Santa Barbara County 1, Tulare County 4, Tulare 1, Sonora 1, Ventura County 2, Ventura 2, Yolo County 1, Winters 2, Woodland 1.

Smallpox

One case: Butte County.

Typhoid Fever

7 cases: Oakland 1, El Centro 1, Los Angeles 1, Madera County 2, Riverside County 1, San Diego 1.

Whooping Cough

378 cases: Alameda 7, Oakland 6, Colusa County 6, Contra Costa County 3, Fresno County 4, Coalinga 1, Fresno 4, Sanger 1, Kern County 6, Los Angeles County 53, Alhambra 2, Culver City 4, Huntington Park 2, La Verne 2, Long Beach 2, Los Angeles 54, Monrovia 1, Montebello 1, Pasadena 8, Pomona 1, San Fernando 4, San Gabriel 1, San Marino 1, Santa Monica 4, South Pasadena 1, Whittier 3, Torrance 1, Lynwood 6, South Gate 3, Bell 1, Gustine 5, Monterey County 9, Monterey 1, Anaheim 1, Santa Ana 6, Placentia 3, Corona 3, Sacramento County 1, Sacramento 15, Ontario 1, San Bernardino 1, San Diego County 11, Escondido 11, San Diego 1, San Francisco 30, Manteca 3, Stockton 2, Tracy 7, San Luis Obispo County 4, San Mateo County 1, Santa Barbara County 5, Santa Barbara 6, Santa Maria 1, Palo Alto 5, Santa Cruz 15, Solano County 3, Sonoma County 11, Stanislaus County 7, Modesto 15, Ojai 1.

Dysentery (Amoebic)

One case: Los Angeles County.

Dysentery (Bacillary)

57 cases: Fresno County 1, Sanger 1, Glendale 1, Los Angeles 8, Pasadena 1, Sonoma County 44, Ventura County 1.

Ophthalmia Neonatorum

2 cases: Los Angeles.

Pellagra

One case: Los Angeles.

Poliomyelitis

15 cases: Butte County 1, Kern County 3, Los Angeles County 3, Glendale 1, Los Angeles 6, Pomona 1.

Tetanus

One case: San Leandro.

Trachoma

One case: National City.

Encephalitis (Epidemic)

One case: Tulare County.

Paratyphoid Fever

4 cases: Inyo County 1, Merced County 1, San Francisco 2.

Jaundice (Epidemic)

3 cases: Lassen County.

Food Poisoning

21 cases: Fresno County 2, Monterey County 17, San Francisco 2.

Undulant Fever

12 cases: Westmorland 1, Kern County 1, Bakersfield 3, Los Angeles County 1, Los Angeles 1, Redondo 1, Chowchilla 1, Santa Ana 1, Santa Barbara County 1, Lindsay 1.

Tularemia

One case: Kern County.

Coccidioidal Granuloma

One case: San Joaquin County.

Epilepsy

34 cases: Berkeley 1, Oakland 2, Los Angeles County 6, Los Angeles 18, Pasadena 1, Laguna Beach 1, Stockton 1, Sonoma County 3, Tulare County 1.

Rabies (Animal)

6 cases: Richmond 1, Placerville 1, Los Angeles County 1, Monterey 1, San Francisco 1, Daly City 1.

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